

1   **WHAT IS CLAIMED IS:**

2           1. A method for driving an electrophoretic display (EPD) that comprises  
3   two opposite substrates each distributed with multiple electrodes, fluid between  
4   the two substrates, colored charged particles suspended in the fluid and  
5   reflective and transmissive areas defined on one of the two substrates or on the  
6   two substrates, the method comprising:

7           applying positive and negative voltages respectively to the electrodes to  
8   drive the colored charged particles to the reflective or transmissive areas to  
9   control whether front light is reflected by the reflective areas or whether  
10   backlight passes through the two substrates.

11          2: The method as claimed in claim 1, wherein the two opposite  
12   substrate are named as a first substrate and a second substrate and each  
13   substrate has an inner face and outer face, wherein the electrodes formed on the  
14   inner face of the first substrate are first electrodes and the electrodes formed on  
15   the inner face of the second substrate are second electrodes, the method further  
16   comprising:

17           adding the positive or negative voltages to the first electrodes to drive  
18   the colored charged particles on the first electrodes defined the reflective areas  
19   to control whether the front light radiated to the first substrate is reflected by  
20   the reflective areas or not.

21          3. The method as claimed in claim 1, wherein the two opposite  
22   substrate are named a first substrate and a second substrates and each substrate  
23   has an inner face and outer face, wherein the electrodes formed on the inner  
24   face of the first substrate are first electrodes and the electrodes formed on the

1 inner face of the second substrate are second electrodes, comprising:

2 the transmissive areas defined on the second substrate by the second  
3 electrodes, whereby adding the positive or negative electric potential to the  
4 second electrodes collects the colored charged particles on the transmissive  
5 areas to whether the backlight passes through the transmissive areas.

6 4. The method as claimed in claim 2, further comprising forming  
7 reflective layers each is formed between the two electrodes.

8 5. The method as claimed in claim 3, further comprising forming  
9 reflective layers each is formed between the two electrodes, wherein the  
10 reflective layer has an upper face.

11 6. The method as claimed in claim 5, wherein the upper face is  
12 processed as a diffusive or random wave shape to provide a light scattering  
13 capability.

14 7. The method as claimed in claim 1, wherein the colored charged  
15 particles are composed of microcapsules each has a transparent capsule,  
16 negatively and positively charged colored particles in the transparent capsule  
17 and a clear or colored fluid is the transparent capsule.

18 8. The method as claimed in claim 1, wherein the colored charged  
19 particles are composed of rollers each has two colored hemispheres that  
20 respectively have a positive electric charge and a negative electric charge.

21 9. The method as claimed in claim 1 wherein the colored charged  
22 particles are single color.

23 10. An electrophoretic display (EPD), comprising:

24 two opposite substrates with electrodes;

1 colored charged particles are between the two opposite substrates; and  
2 reflective and transmissive areas are defined on one of the two opposite  
3 substrates or both of them by the electrodes, wherein some of the electrodes are  
4 corresponding to the transmissive areas.

5 11. The EPD as claimed in claim 10, wherein the two opposite  
6 substrates are named a first substrate and a second substrates each has an inner  
7 face and an outer face, wherein the two inner faces are faced each other and the  
8 electrodes formed on the inner face of the first substrate are first electrodes and  
9 the electrodes formed on the inner face of the second substrate are second  
10 electrodes.

11 12. The EPD as claimed in claim 11, further comprising reflective  
12 layers each is formed between the two of the second electrodes, wherein each  
13 reflective layer has an upper face.

14 13. The EPD as claimed in claim 12, wherein the upper face is  
15 processed as a diffusive or random wave shaped to provide a light scattering  
16 capability.

17 14. The EPD as claimed in claim 10 wherein the colored charged  
18 particles are composed of microcapsules each has a transparent capsule,  
19 negatively and positively charged colored particles in the transparent capsule  
20 and a clear or colored fluid is the capsule.

21 15. The EPD as claimed in claim 10, wherein the colored charged  
22 particles are composed of rollers each has two colored hemispheres that  
23 respectively have a positive electric charge and a negative electric charge.

24 16. The EPD as claimed in claim 10, wherein the colored charged

1 particles are single color and have positively charge or negatively charge.

2 17. The EPD as claimed in claim 11, wherein each first electrode is  
3 covered one whole pixel area of the first electrode and each second electrode  
4 has at least two second electrode layers.

5 18. The EPD as claimed in claim 11, wherein each first electrode has at  
6 least one first electrode layer and each second electrode is covered one whole  
7 pixel area of the second substrate.

8 19. The EPD as claimed in claim 11, further comprising a backlit  
9 module that is mounted on the outer face of the second substrates.

10 20 The EPD as claimed in claim 11, further comprising a front light  
11 module that is mounted on the outer face of the first substrate.

12 21. The EPD as claimed in claim 11, wherein the first and second  
13 substrates are made of the glass, plastic or stainless steel material.

14 22. The EPD as claimed in claim 11 wherein the first and second  
15 electrodes are driven by a static driving circuit.

16 23. The EPD as claimed in claim 11 wherein the first and second  
17 electrodes are driven by an active driving circuit.

18 24. The EPD as claimed in claim 10, wherein two opposite substrate  
19 are named a first substrate and a second substrates each has an inner face and  
20 outer face, wherein the all electrodes are formed on the inner face of the first  
21 substrate.

22 25. The EPD as claimed in claim 10, wherein two opposite substrate  
23 are named a first substrate and a second substrates each has an inner face and  
24 outer face, wherein the all electrodes are formed on the inner face of the second

1 substrate , wherein each electrode comprises an outer electrode layer and an  
2 inner electrode layer.

3 26. The EPD as claimed in claim 25, wherein the outer electrode layer  
4 and an inner electrode layer are period arrangement.